

## CAPS Infrastructure Report

<b>Year:</b>	2016
<b>State:</b>	Kansas
<b>Cooperative Agreement Name:</b>	Infrastructure
<b>Cooperative Agreement Number:</b>	16-8420-1223-CA
<b>Project Funding Period:</b>	July 1, 2016 – June 30, 2017
<b>Project Report:</b>	CAPS Infrastructure Report
<b>Project Document Date:</b>	July 1, 2016 – June 30, 2017
<b>Cooperators Project Coordinator:</b>	Laurinda Ramonda
<b>Name:</b>	Plant Protection and Weed Control
<b>Agency:</b>	Kansas Department of Agriculture
<b>Address:</b>	6531 SE Forbes Avenue, Suite B
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Quarterly Report	<input type="checkbox"/>
Semi-Annual Accomplishment Report	<input type="checkbox"/>
Annual Accomplishment Report	<input checked="" type="checkbox"/>

**A. Compare actual accomplishments to objectives established as indicated in the workplan. When the output can be quantified, a computation of cost per unit is required when useful**

- June 15, 2016 - Agreement finalized

**ACTIVITIES**

**Possible Meetings and Outreach Tradeshows as Per Workplan**

<b>Meeting or Tradeshow</b>	<b>Month Planned</b>	<b>Month Occurred</b>	<b>SSC Attended and Where</b>
Horticultural Inspection Society Meeting	October	October	No, Lafayette, Indiana
Great Plains Tree Pest Council	November	November	Yes, Rapid City, South Dakota
Central Plant Board Meeting	March	April	Yes, Indianapolis, Indiana
State CAPS committee meetings	(1 time a year)	May	Yes, Manhattan, KS
Shade Tree Conference (Kansas Arborist Association) - (outreach)	January	January	No, Jeff Vogel and Jennifer Smith attended with educational booth, Topeka, KS
Western Landscape and Nursery Tradeshow (outreach)	January	January	No, Jeremy Maples and Jennifer Smith attended with educational booth, Kansas City, MO
Great Plains Growers Conference (outreach)	January	January	Yes, St. Joseph, Missouri
Topeka Garden Show (outreach)	February	February	Yes, Topeka, Kansas

**Committee Service:**

- Kansas CAPS Committee
- 2017 Farmbill Proposal Review Committee

**Other Survey Work:**

- August 3, 2016 – Assisted with bio-control release for emerald ash borer at Wyandotte County Lake
- August 31, 2016 – Assisted with bio-control release for emerald ash borer at Wyandotte County Lake

- October 5, 2016 – Girdled trap tree peeling in Miami County
- October 14, 2016 – Girdled trap tree peeling in Doniphan and Atchison County
- October 20, 2016 – Girdled trap tree peeling in Franklin County
- October 21, 2016 – Girdled trap tree peeling in Shawnee County
- March 31, 2017 – Tree removal and peeling in Doniphan County to look for EAB
- May 24, 2017 – EAB tree check in Shawnee County
- June 6, 2017 – EAB tree check in Shawnee County (positive identification in new county)

### **OUTREACH AND EDUCATION**

- **Great Plains Growers Conference** – January 12-14, 2017 – St. Joe, Missouri – educational booth –Greg Chrislip, Scott Marsh and Laurinda Ramonda



Scott Marsh, State Weed Specialist, talking with an attendee at the Great Plains Growers Conference

- **Shade Tree Conference (Kansas Arborist Association)** – January 11-13, 2017 Topeka, Kansas – educational booth –Jennifer Smith and Jeff Vogel
- **The Western Nursery and Landscape Association Tradeshow** – January 19-20, 2017 – Kansas City, Missouri – educational booth –Jennifer Smith and Jeremy Maples
- **Kansas Garden Show** – February 10-12, 2017 – Topeka, Kansas – educational booth – Jennifer Smith, Scott Marsh, Greg Chrislip, Jeff Vogel and Laurinda Ramonda



Kansas Garden Show

**Interviews (TV/Radio/Newspaper/Magazines):**

- none planned

**Outreach materials (Pamphlets/ brochures/ posters):**

- none at this time

**Publications:**

- 2017 Spring Nursery Newsletter (attached at end of report)

**Public Service Announcements (PSA):**

- none planned

**MEETINGS**

- **Kansas Department of Agriculture Meeting** – November 4, 2016
- **Great Plains Tree Pest Council** – November 16-17, 2016 – Rapid City, South Dakota
- **Plant Protection and Weed Control Staff Meeting** – February 21-23, 2017 – Topeka, KS
- **Plant Protection and Weed Control Interviews** – March 1, 2017 – Manhattan, KS
- **Central Plant Board Meeting** – April 17-20, 2017 – Indianapolis, Indiana
- **Ft. Riley EAB Plan** – April 26, 2017 – Manhattan, KS
- **Plant Disease Coordination/Planning/Communication** – May 5, 2017 – Manhattan, KS
- **CAPS Committee Meeting** – May 18, 2017 – Manhattan, KS (see minutes at end of report)

### **Conference calls:**

- July 18, 2016 – Central Plant Board State Survey Coordinator Conference Call – discuss surveys, farmbill and EZ Grants
- July 21, 2016 – EZ Grant Conference Call/Webinar – new grant format
- August 16, 2016 – State of Kansas Health Plan conference call
- August 23, 2016 – EZ Grant Conference Call/Webinar – application and amendment
- September 6, 2016 – EZ Grant Conference Call/Webinar – post award and closeout
- July 11, 201 – Plant Protection and Weed Control Monthly Conference Call
- October 10, 2016 – Plant Protection and Weed Control Monthly Conference Call
- November 14, 2016 – Plant Protection and Weed Control Monthly Conference Call
- December 12, 2016 – Central Plant Board State Survey Coordinator Conference Call
- January 9, 2017 – Plant Protection and Weed Control Monthly Conference Call
- March 3, 2017 – Final candidate decision for field staff position
- March 13, 2017 – Plant Protection and Weed Control Monthly Conference Call
- April 12, 2017 – Plant Protection and Weed Control Monthly Conference Call
- May 8, 2017 – Plant Protection and Weed Control Monthly Conference Call
- June 19, 2017 – Plant Protection and Weed Control Monthly Conference Call

### **Conferences:**

- none at this time

### **Webinars:**

- July 21, 2016 – EZ Grant Conference Call/Webinar – new grant format
- August 23, 2016 – EZ Grant Conference Call/Webinar – application and amendment
- September 6, 2016 – EZ Grant Conference Call/Webinar – post award and closeout
- January 25, 2017 – CAPS Services Ecosystem
- February 1, 2017 - NAPIS Data Update

### **TRAINING**

- July 19-20, 2016 – Seed Inspection Training – Plant Protection and Weed Control program training
- November 14, 2016 – Preparation training for phone bank for emergency training event (After Burn)

**OTHER**

- none at this time

- B. If appropriate, explain why objectives were not met.\***
- C. Where appropriate, explain any cost overruns or unobligated funds in excess of \$1,000.  
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- D. Supporting Documents**

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*\*indicates information is required per 7 CFR 3016.40 and 7 CFR 3019.51*

**Approved and signed by**

\_\_\_\_\_  
**Cooperator**

**Date:** \_\_\_\_\_

\_\_\_\_\_  
**ADODR**

**Date:** \_\_\_\_\_

## Minutes from CAPS Committee Meeting on May 18, 2017

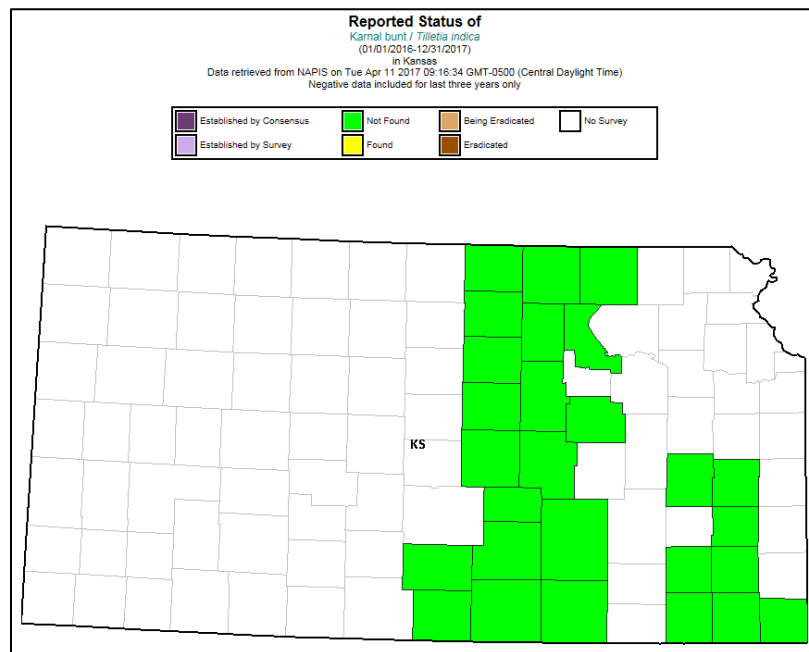
The state CAPS Committee met on May 18, 2017 at 9:00 am at the Kansas Department of Agriculture, 1320 Research Park Drive, Manhattan. In attendance were: Shayne Galford-USDA-APHIS-PPQ, Craig Webb-USDA-APHIS-PPQ, Hannah Muxlow-USDA-APHIS-PPQ, Doug Jardine-KSU, Chris Steffen-KDWPT, Ryan Armbrust-KFS, Eva Zurek-KSU, Tim Todd-KSU, Jeff Vogel-KDA, Greg Chrislip-KDA, Scott Marsh-KDA and Laurinda Ramonda-KDA.

Introductions were made.

### **2016 Surveys:**

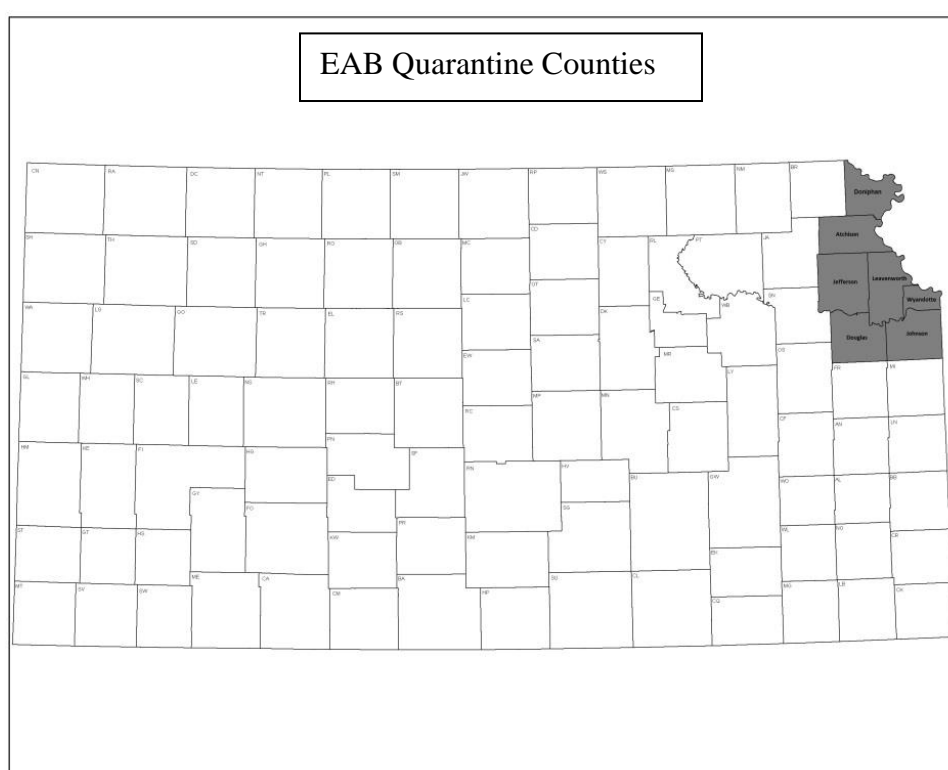
CAPS surveys and line items:

- **Karnal bunt**
  - 96 samples in 27 eastern counties were collected.
  - Collection of samples occurred from June 15 – June 23, 2016
  - 3 staff – Gaelle Hollandbeck, Jeremy Maples, Tom Sanders collective samples
  - All samples sent to lab in Arizona and all were negative



This map only represents pest survey data submitted to the NAPIS database by participating states in the Cooperative Agricultural Pest Survey (CAPS) program with USDA, APHIS, PPQ. Data is based on survey observation by calendar year. CERIS does not certify the accuracy or completeness of this map. "Survey in Progress" does not imply that all counties are expected to report. © 2004- 2017 Purdue University. All Rights Reserved.

- **Emerald ash borer** – USDA is contracting out trapping
  - **Atchison County EAB Find Background** - USDA is contracting out trapping. On September 19, 2016 a suspect EAB specimen was removed from a trap in the Cummings township area in Atchison County. USDA positively identified EAB on September 23. This is a new county record.
  - **Doniphan County EAB Find Background** – On March 31, 2017, several EAB larvae were removed from an ash tree in a native stand of timber in rural Doniphan County near the town of Bendena by the Kansas Forest Service and KDA staff. Regulatory officials with USDA’s Animal and Plant Health Inspection Service’s Plant Protection and Quarantine (USDA-APHIS-PPQ) confirmed the presence of EAB on April 4, 2017.



- The Kansas Department of Agriculture girdled 14 trees in 7 counties - Atchison (2), Cherokee (1), Doniphan (1), Franklin (3), Labette (2), Miami (1) and Shawnee (4). Tree removal and peeling will take place in October. Atchison County was the only county found with EAB. This county had already been positive by traps in 2016.



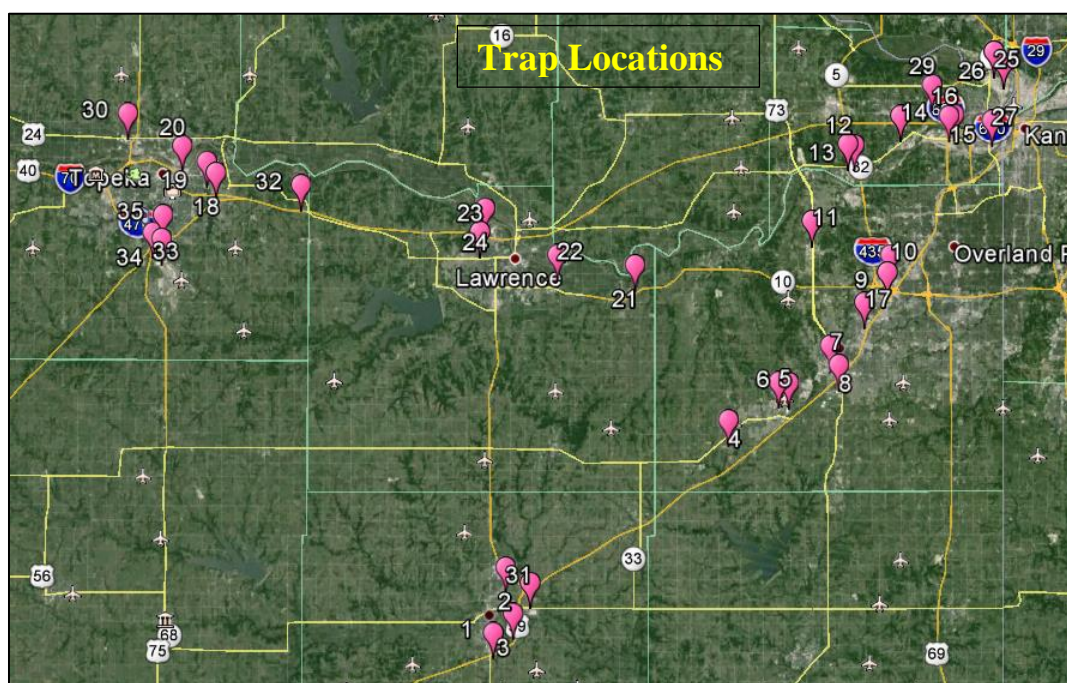


▪ **Pathway Survey: Early Detection of Exotic Plant Pests**

- Dates of trapping – April 4 – October 21, 2016 in 35 locations with 175 traps in 5 counties
- 1 seasonal staff – Brian Brunkow
- All other pests were negative

	Common Name	Scientific Name	Trapping Method
<b>Pest:</b>	Cucurbit beetle	<i>Diabrotica speciosa</i>	Visual
	Whitefringed weevil	<i>Naupactus leucoloma</i>	Pitfall
	Twobanded Japanese weevil	<i>Pseudocneorhinus bifasciatus</i>	Pitfall
	European wireworm	<i>Agriotes sputator</i>	Pitfall
	European wireworm	<i>Agriotes ustulatus</i>	Pitfall
	Oriental beetle	<i>Anomala orientalis</i>	Pitfall
	European chafer	<i>Rhizotrogus majalis</i>	Pitfall
	Argentine ant	<i>Linepithema humile</i>	Protein Bait (SPAM)
	Imported fire ant	<i>Solenopsis invicta</i>	Protein Bait (SPAM)
	Okinawa Gypsy Moth	<i>Lymantria albescens</i>	Delta

	Asian Gypsy Moth	<i>Lymantria dispar asiatica</i>	Delta
	Japanese Gypsy Moth	<i>Lymantria dispar japonica</i>	Delta
	White-winged Gypsy Moth	<i>Lymantria postalba</i>	Delta
	Hokkaido Gypsy Moth	<i>Lymantria umbrosa</i>	Delta
	Horse Thistle	<i>Onopordum acaulon</i>	Visual
	Striped helicella snail	<i>Ceruella cisalpina</i>	Visual
	Striped snail	<i>Ceruella virgata</i>	Visual
	Helicid snail	<i>Cochlicella</i> spp.	Visual
	Helicid snail	<i>Monacha</i> spp.	Visual
	Veronicellid Slug	<i>Veronicella</i> spp.	Visual

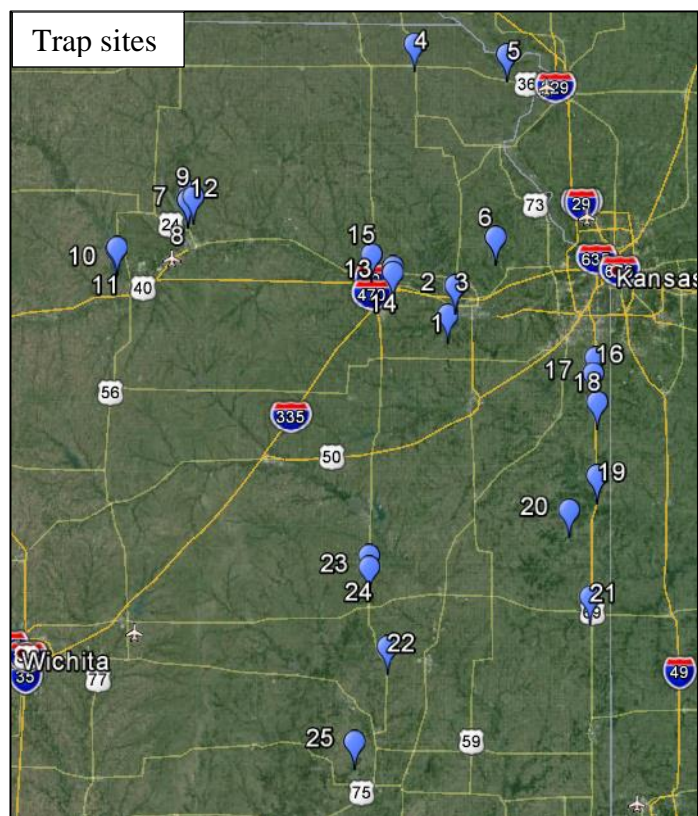


▪ **Exotic Wood Borer/Bark Beetle Survey**

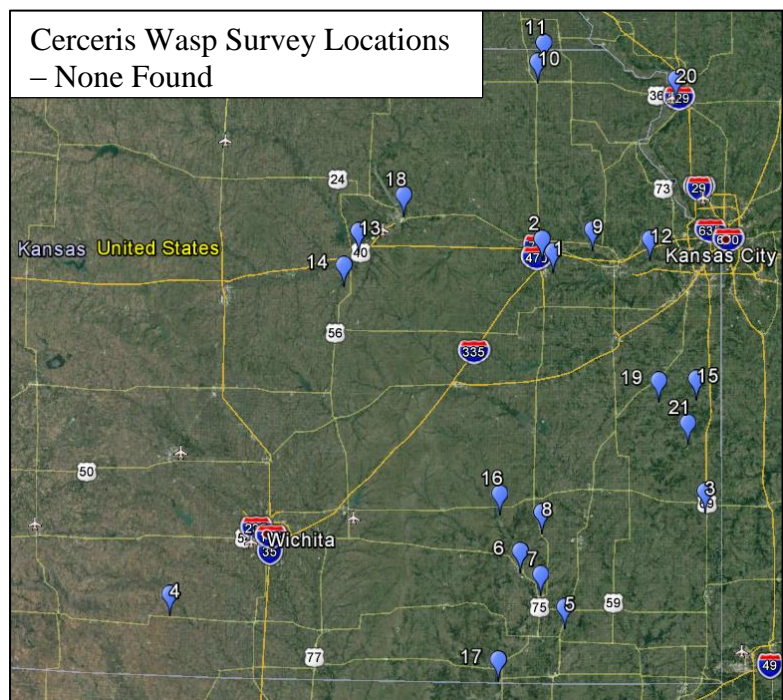
- Dates of trapping – March 11 – July 22, 2016 in 25 locations with 75 traps in 14 counties. All traps negative.
- Visuals for Cerceris Wasp – 21 locations in 13 counties.
- 1 seasonal staff person – Brent Jones



<b>Exotic Wood Borer/Bark Beetle Survey</b>	
<b>County</b>	<b>No. of Sites</b>
Bourbon	1
Brown	1
Doniphan	1
Douglas	3
Geary	2
Leavenworth	1
Linn	2
Miami	3
Montgomery	1
Pottawatomie	2
Riley	2
Shawnee	3
Wilson	1
Woodson	2
<b>Total</b>	<b>25</b>



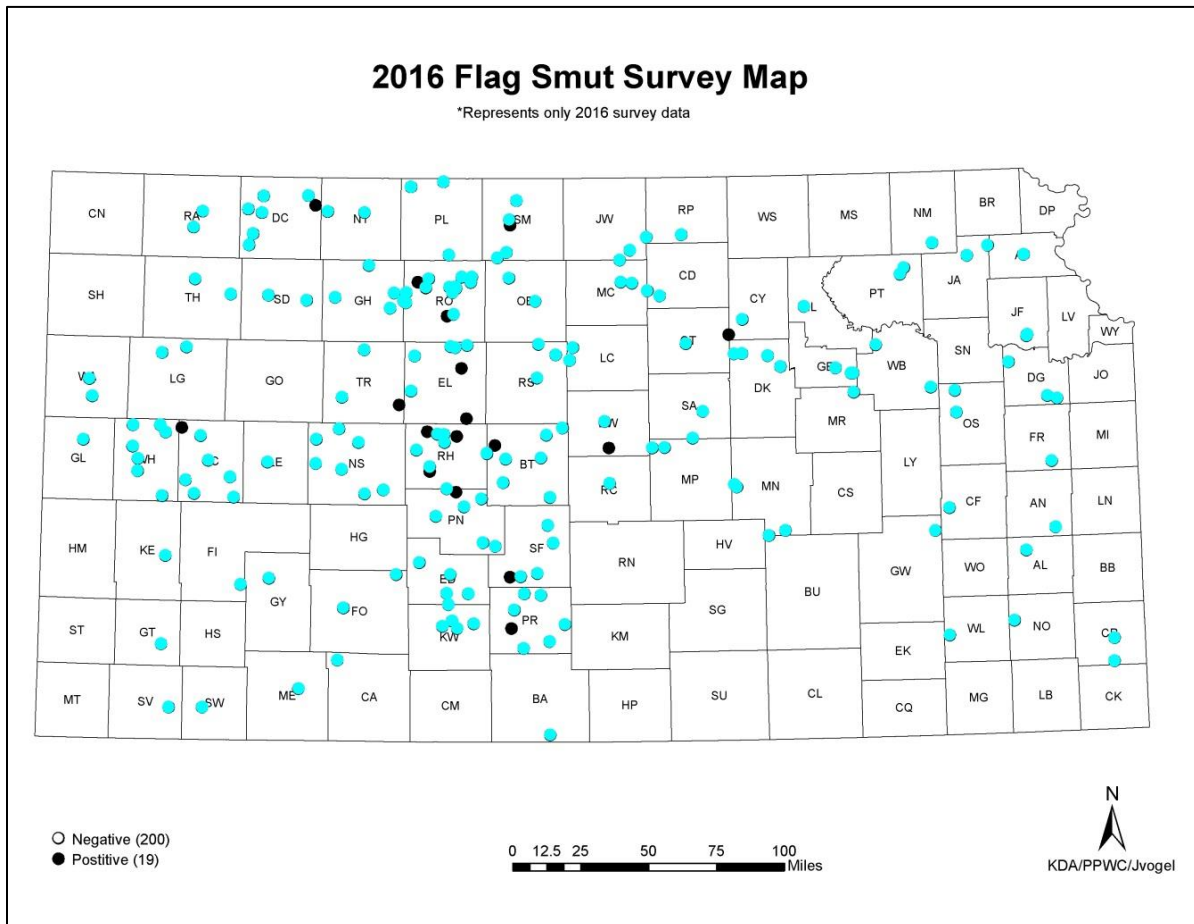
<b>Cerceris fumipennis Survey</b>	
<b>County</b>	<b>No. of Sites</b>
Bourbon	1
Brown	2
Doniphan	1
Douglas	1
Geary	2
Leavenworth	1
Linn	3
Miami	0
Montgomery	3
Pottawatomie	0
Riley	1
Shawnee	2
Wilson	3
Woodson	1
<b>Total</b>	<b>21</b>

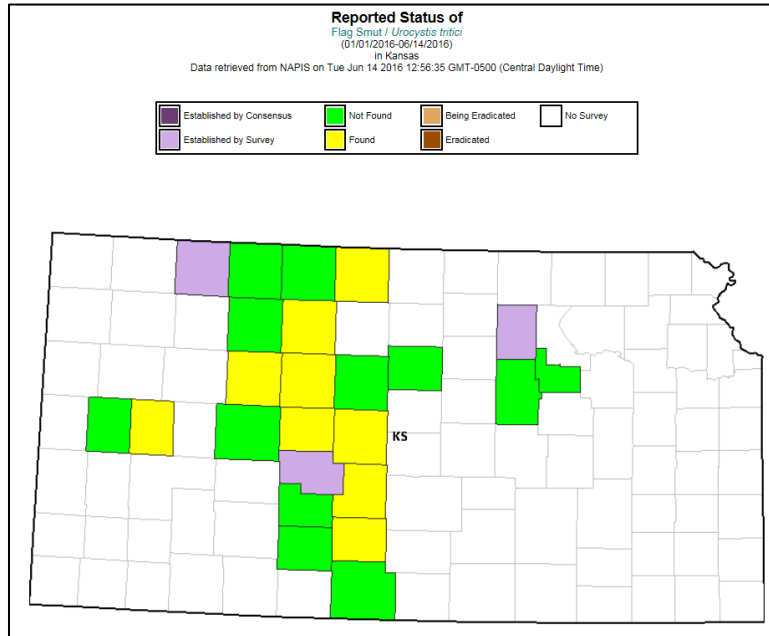


\*Only 21 suitable sites to check for *Cerceris fumipennis*

▪ **Flag Smut Survey**

- Dates of survey – May 17 – June 10, 2016 in 104 locations 24 counties.
- 1 seasonal staff person – Jon Appel



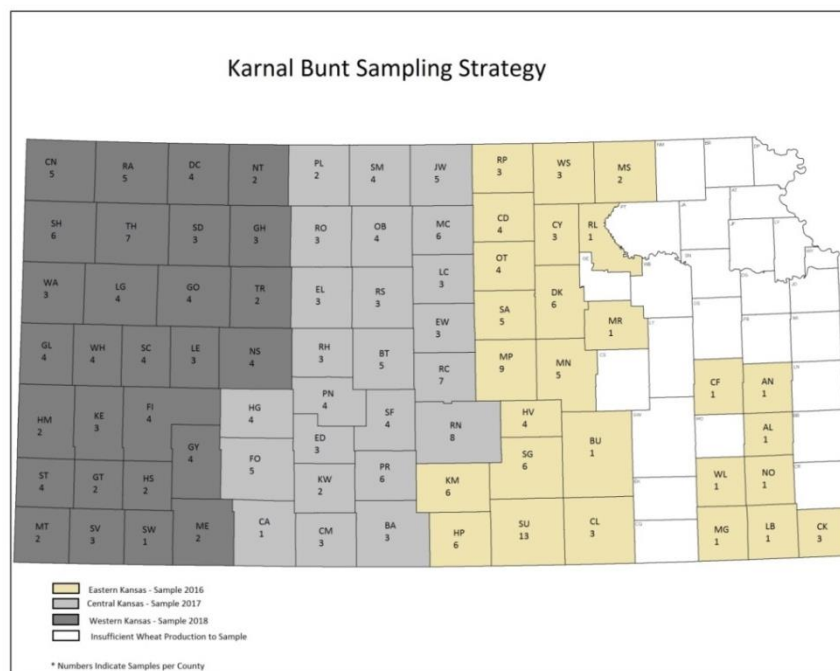


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## **2017 CAPS and line items plan:**

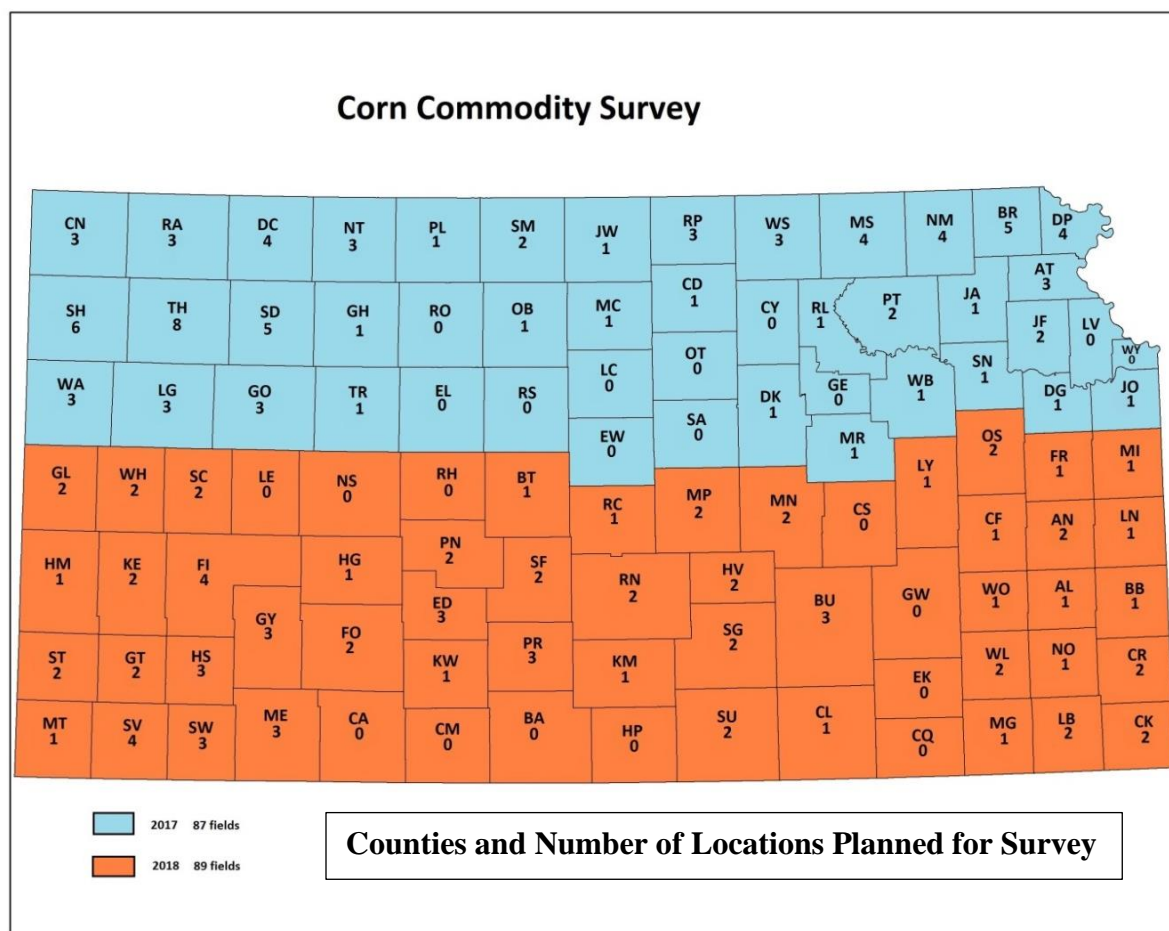
### ▪ **Karnal bunt**

- 94 samples planned in the central part of the state – survey done by KDA staff



▪ **Corn Commodity Survey**

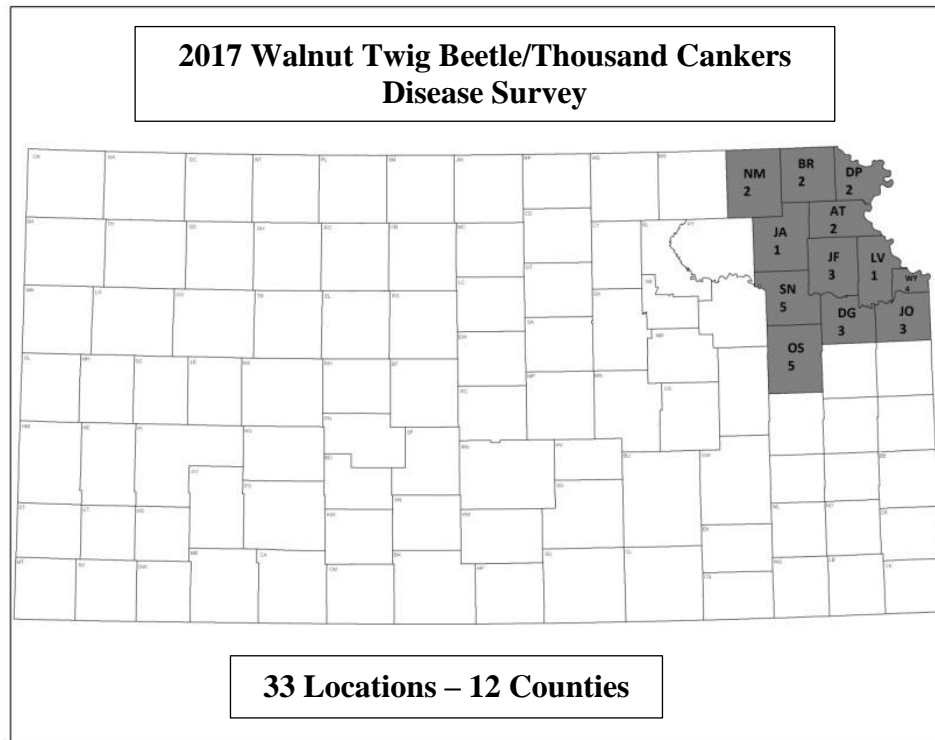
- Two year survey. In 2017, 87 samples planned in 35 northern counties – survey done by seasonal staff, Brian Brunkow. One site for every 25,000 acres of corn. Soil sampling for will occur once at each field and disease and trap activities will occur monthly at each site during May to September. Survey to begin May 11.
- Trapping – Egyptian Cottonworm (*Spodoptera littoralis*) and cotton cutworm (*Spodoptera litura*) – 1 trap for each at each location
- Diseases - late wilt (*Harpophora maydis*), Java downy mildew (*Peronosclerospora maydis*), Philippine downy mildew (*Peronosclerospora philippinensis*), Brown stripe downy mildew (*Sclerophthora rayssiae* var. *zeae*), bacterial leaf streak (*Xanthamonas vasicola* pv. *Vasculorum*), tar spot (*Phyllachora maydis* and *Monographella maydis*) and Goss' bacterial wilt.
- Nematode - Mexican corn cyst nematode (*Punctodera chalconensis*) – One sample consisting of 15-20 cores of soil from each field. Samples will be sent to Tim Todd at the KSU Nematology Lab.



## **2017 Farmbill:**

### ▪ **Walnut Twig Beetle/Thousand Cankers Disease Survey**

- 33 sites with 1 trap at each site in 12 northeastern counties.
- Trapping will occur July and August.
- Seasonal staff – Brent Jones



## **USDA-APHIS-PPQ Updates:**

Shayne Galford - State Plant Health Director (SPHD):

- Final processes occurring to have a temporary Pest Survey Specialist (PSS) Art Wagner from Wisconsin to help with Kansas needs. Has experience in *P. ramorum*, weeds and farmbill.
- 2016 Gypsy Moth – Set 373 traps and 98 delimiting traps set in a 9 square mile area around the 1 positive detection in the Kansas City area from the 2015 survey. All were all negative.
- 2016-Grass hopper was done in 36 Counties and 0-26 per square yard were found. Down from previous year.
- 2016-EAB National contractor-137 traps, 1 positive in Atchison County.
- 2017-Gypsy Moth-State will be put into 4 quadrants for survey-Southwest quadrant will be done this year with 200 traps.
- 2017-Grasshopper survey to continue.

- 2017-15 traps for wood borers.
- 2017-EAB contractors are setting 1000+ traps. 65% have been deployed.

Craig Webb – In the process of hiring. The lab will be up to 4 people.

#### KDA Specialist Updates:

Jeff Vogel:

Update from Gaelle Hollandbeck:

- Flag Smut-concerned about trade issues-2015 flag smut detected in demonstration plot.
- 2016-Performed targeted survey for flag smut –Clay, Pawnee, Decatur and Ellsworth were new positives.
- Rush County became a concern since 3 out of 3 fields scouted were positive. Also 1 field in Ellis and 1 field in Pawnee county.
- 2016-No target survey for flag smut but after scouting Ellis county for disease, 3 out of 3 fields were positive for flag smut.
- Wheat streak mosaic- volunteer wheat is cause of disease. Plan to do outreach.
- Corn-plan to train seasonal staff on diseases for corn survey.
- Bacterial streak of corn was added to the corn survey because of the find and subsequent survey last year to determine its spread in Kansas.
- Nursery-lots of Hosta Virus X being found in numerous varieties in the big box stores. The statewide rejection means that a particular lot or group of plants do not meet the pest freedom standard on a statewide basis. These Hosta varieties are on a stop sale.
  - Captain Kirk, 1 gallon, Park Hill
  - Janet, 1 gallon, Park Hill
  - Antioch, quart, Park Hill
  - Francee, 1 gallon, Park Hill
  - Francee, quart, Park Hill
  - Fragrant Bouquet, Quart, Park Hill
  - Blue Mouse ears 1 gallon, Park Hill
  - Blue Mouse Ears, quart, Park Hill
  - Guacamole, 1 gallon, Park Hill
- Canna-several shipments of canna with Cann Yellow Mottle Virus and general Potyvirus group have been found.

Jeff update:

- EAB trap trees are girdled in 9 northeast counties-4 Shawnee, 2 Osage, 1 Franklin, 1 Miami
- Also in Cherokee, Labette and Crawford counties.

Greg Chrislip:

- 2017 Bio-control releases will occur at Wyandotte County Lake for EAB again this year. *Tetrastichus*, *Spathius agrili* and *Oobius*.



- Walnut twig beetle trapping in field staff areas for 2016 were negative.
- Brown marmorated stinkbug trapping 5 field staff areas were negative for 2016.
- In 2018 will check for established release insects.

Scott Marsh:

- Old World Bluestem phone survey with NRCS, Extension, etc is currently in 102 counties infested. Other organizations would like to get it listed as noxious.
- Biocontrol – 2013 *Diorhabda* found mostly in southwestern counties. Unable to find it in 2015 & 2016. Could be due to wet and flooding conditions.
- Hay donations from fires-Monitoring at staging areas for red imported fire ants and weeds needs to be done. Outreach needs to occur to landowners, extension and weed directors. USDA would like landowner names to help with survey.
- Legislative session-Kansas Livestock Association wanted to have wild blackberry as a county option invasive species and also have Himalayan blackberry added-bill failed.

#### Specialist Updates:

Eva Zurek:

- Receiving few samples-only getting 30% from extension and rest is from the public. Public samples are harder to follow up on.
- Participated in tree injection training in Nebraska. Suggested having one in Kansas.

Doug Jardine:

- Wheat Streak Mosaic Virus-inundated with samples, 2 months ahead of last year with sample numbers. Resistance gene seems to be temperature regulated. Mite moves it more when it is dry.
- Stripe Rust-most planted variety seems to be most susceptible.
- Huge unknown from the effect of the late snow.
- 20% of corn planted in west part of state. Essentially done in east.
- Diplodia Ear Rot-2016 worst year.
- Southern rust –will be monitoring.

Chris Steffen:

- Survey for zebra mussels continuing –15 year concern. 28 lakes infested which is 75% of the acreage. Infested lakes are being researched on reproduction.
- Quagga mussel-next one to look for. Can settle in silt and sand.
- Aquatic nuisance species-100 bait shop inspections occurred. Trained 2 seasonals. Found 1 violation.
- Water Mineral Signatures-collecting water samples and piggy backing with paddle fish project.

- Large Mouth Bass project-7 lakes are positive. Looking at 15 more lakes.
- Yellow Flag Iris – in 2 lakes and spraying for it.
- Eurasian Water Milfoil-about the only thing west of highway 81 that will grow for fish vegetation. It is about 20-40% plant coverage for fish.
- Would like to plan a lake vegetation survey.
- Starting to remove common carp from lakes.
- Hydrilla-root systems can survive for 7 years.

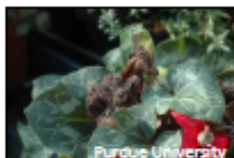
Ryan Armbrust:

- Injection and insect physiology workshop is hopefully in works. Possibly have it coincide with field day or Shade Tree Conference.
- KSU Tree Listserve is back up and running. If you want on it contact Ryan.
- WTB/TCD-both KFS Ryan's are going to the meeting at Purdue. Would like to have a meeting in Kansas of an overview of what they learned.
- Invasive Plants Grant-plans are to make a management plan, a list of invasives and identification.
- Midwest Invasive Plant Network (MIPN)-mapping of invasive plants phone app.
- Bush Honeysuckle Remote Sensing-K-State Polytechnic used a Cessna and analyzed 230,000 acres for mapping. Occurred in November. Most only thing green then.
- Leafy Oak Gall-seeing more often. Concern is deformation of young trees.
- Pine Wilt Initiative-where is it now? Where do we go with it?

**Thanks to all that attended and added information!**

## WATCH FOR GRAY MOLD IN GREENHOUSES GAELLE HOLLANDBECK, PLANT PATHOLOGIST

As spring approaches and temperatures begin to warm, greenhouses start to fill up with spring plants. As the plant population increases, it's important to scout thoroughly and regularly for disease, and treat or dispose of plants accordingly to minimize the disease spread. A common spring disease to watch for is Botrytis blight, caused by *Botrytis cinerea*.



Flower blight on Cydamen



Leaf spotting on Lilium caused by Botrytis blight

This disease, also known as gray mold, can be found virtually everywhere, from soil to water to even your kitchen, where it produces that common gray, fuzzy growth on your fresh strawberries. It has an extremely wide host range, attacking both annual and perennial plants, including vegetable and fruit plants. It feeds on both living and dead tissue, commonly growing at low levels on dead tissue, such as plant debris, and then moving on to living tissue as it becomes more aggressive. Botrytis blight is the most important greenhouse blight.

Optimal conditions for development and spread of Botrytis blight are moderately cool temperatures, around 60°F, and high relative humidity. Wounded tissue is most at risk for infection.

Kansas Plant Pest Freedom Standards require that when the crop is infected with a Botrytis blight infection that affects more than 10 percent of the foliage and exceeds 15 percent of the total number of plants in the lot, cultivar or group of a single species of plant, regulatory action must occur.

### WHAT SHOULD I LOOK FOR?

- In its earliest stages, this disease is characterized by brown or spotted leaf or stem tissue.
- As it develops a mold will start to form, initially white and turning gray as it ages and spreads. It can grow on all plant tissues, but will be easiest to spot on the aboveground tissues such as leaves, stems, flowers and fruits.
- The plant may also begin to wilt.
- This fuzzy mold is full of a dusty mass of spores that will easily spread by irrigation, moving air current or contact, so if a plant is showing signs or symptoms of the disease, it should be removed promptly from the greenhouse and thrown away.
- If you have not yet applied a fungicide against Botrytis blight, this may also be a good time to apply.
- Be sure to apply a fungicide labeled against Botrytis blight and approved for use on the plants present in your greenhouse.
- Visit <http://ag.umass.edu/greenhouse-floriculture/fact-sheets/botrytis-blight-of-greenhouse-crops> for a list of fungicides labeled for use against Botrytis blight and notes about their use.

### PROACTIVE MEASURES

- Inspect shipments of plants when they arrive to minimize the risk of incoming plants bringing disease with them. Quarantine new shipments and re-inspect at a later date before integrating with other plants. Continue scouting plants weekly.
- Botrytis survives in dead tissue, colonizing plant debris left in the greenhouse. Remove all plant debris and affected plants regularly and promptly. Control weeds in and around greenhouses, as they can also harbor disease.
- Reused soil and soil left on benches or on the ground may contain survival structures called sclerotia and chlamydospores, which Botrytis will produce in order to overwinter in the soil. Clean excess fallen soil from the greenhouse if possible and wash pots thoroughly if you plan to reuse them. Do not reuse potting media.
- Space plants adequately apart to allow good airflow and rapid drying of leaves, and avoid development of a heavy canopy. Botrytis blight can spread by contact, so it is best if plants do not touch each other, and a heavy canopy can exacerbate the disease. Ventilate greenhouses to lower the relative humidity.
- Raise plants off the ground using table benches, or use fabric mat or gravel floor to minimize contact with wet soil and suppress weeds.
- Raise the temperature in the greenhouse to above 60°F. Botrytis does not grow well under warmer conditions.
- Botrytis spores spread readily in water so avoid reusing water and avoid overhead irrigation if possible. Drip irrigation is preferred. Do not overwater. Especially if using overhead irrigation, irrigate in the early morning when dew may still be present on the leaves to minimize the amount of time leaves are wet.

## KANSAS SEED LAW

### BOB BUHLER, WEST AREA PLANT PROTECTION SPECIALIST

Late in 2016, the regulatory responsibilities of the Kansas Seed Law were transferred to the plant protection and weed control program at the Kansas Department of Agriculture. Changes that some of you will see is your live plant inspector may also conduct a seed inspection. If you sell turf-grass seed, cover-plot seed and deer plot seed (considered agricultural seed in the Kansas Seed Law) and do not currently have a seed license, you may be asked to complete an application to become licensed. Vegetable and flower seed are exempt from the licensing requirements of the law.

Like the Live Plant Verification Program, 300 dealers have been selected from our seed database for verification inspections by our 5 inspectors. Not all of these inspections will be on the nursery trade, with a large percentage conducted at agronomic seed dealers and retail stores that sell seed but do not sell plants. Expect greater scrutiny in the way that you sell seed to the public.

#### BULK SEED SALES

- If seed is sold in bulk, a printed seed label is required for every sale of that seed.
- Make sure adequate numbers of photocopied labels are available at all times.
- Another thing to watch for is the mixing of seed by children. Mixed seed will not match the label and should not be sold.
- Another problem we see with bulk bins is that stripes of different colors appear through the transparent side. This is evidence that new seed is being placed on top of old seed that is probably out of test date.
- Make sure old seed is removed from the bin prior to refilling the bin, except when that old seed is from the same lot as the fresh seed.

#### LICENSING

All persons selling regulated seed in a retail setting are required to obtain a Seed Retailer's License which costs \$10. If the person is also selling wholesale, then they are required to obtain a Seed Wholesaler's License in addition to the retailer's license. This license is \$175. The definitions of retailer and wholesaler in the seed law is as follows:

- "Retailer" means any person who sells agricultural seed to the end user.
- "Wholesaler" means any person who is in the business selling agricultural seed at wholesale to any person other than the end user.

A Kansas Seed License Application can be obtained at <http://agriculture.ks.gov/docs/default-source/acap/seed-license-application.pdf?sfvrsn=2>

For additional fees, a Kansas Seed License can be purchased with a credit card at <https://www.kansas.gov/kda-seed/index.do>

#### TEST DATES

- Regularly examine the test dates on your seed labels. Seed can only be sold if the test date is within 9 months of the present date.
- For example, if the test date is January 2017 the seed can be sold until November 1, 2017. February 2017 up to December 1, 2017, etc.
- If your seed is out of test date, then it cannot be legally sold and has to be removed from the sales floor and marked with a "Not for Sale" sign.
- At this point the dealer can request new seed test labels from the supplier, have the seed tested and print new labels, give away the seed or destroy it.
- The seed cannot be sold again until it is relabeled with an updated label. Rotating your inventory so that the oldest inventory is sold first will help in avoiding problems with test dates.

Month Seed Tested	Non-Compliant Date	Month Seed Tested	Non-Compliant Date
January	November 1	July	May 1
February	December 1	August	June 1
March	January 1	September	July 1
April	February 1	October	August 1
May	March 1	November	September 1
June	April 1	December	October 1

#### STAFF UPDATES

##### New Plant Pathologist

Plant Protection and Weed Control has a new plant pathologist, Gaelle Hollandbeck. She started in mid-April 2016. Gaelle comes to us from Indiana, having completed her Master's degree in plant pathology at Purdue University in March 2016.

##### Retired Staff

Tom Sanders, area field staff, retired in December. He worked for KDA plant protection and weed control for 21 years. He came from the Oklahoma Department of Agriculture and first worked as an inspector in the southwest part of the state. He then worked as the survey coordinator for a year. After that he was an inspector for southeastern Kansas and lastly worked in the northeastern part.

## SPRUCE PROBLEMS

### JENNIFER SMITH, KANSAS CITY METRO AREA SPECIALIST

Healthy mature spruce trees are unrivaled in their beauty, but getting them to that point can be a bit of a trick. Spruce are susceptible to a number of insect and disease problems as well as being picky about where they are planted. In many cases they will look healthy for a few years after planting, then suddenly turn brown. When spruce are grouped, you may also see only one out of several trees become stressed and die even though they are all the same variety and have had the same treatment.

Spruce are susceptible to two needlecast diseases (*Rhizosphaera* and *Stigmella*), canker diseases (*Cytospora*), tip blights, spider mites and a number of other pests that may be present on trees that are shipped in from other states. Spruce also display the "Christmas tree effect," meaning they may be dead but not show any immediate signs. When you finally see brown needles, it is a result of something that happened weeks or even months before.

In a report from Michigan State University, researchers suggest that the fungal pathogens *Diplodia* and *Phomopsis* are more common than *Rhizosphaera* and *Cytospora* and can also be associated with branch death and decline. However, those fungi are considered weak or secondary pathogens in most cases, so environmental stress is probably still to blame. More work is needed to determine the seriousness of these pathogens and if treatment is an option.

Customers are going to keep asking for spruce, and they will continue to be challenged by the Kansas environment. Besides the items mentioned above to alleviate environmental stress, selective placement and diversification in plantings can help. If you are bringing trees in from out of state, look spruce over carefully and reject plants that are already showing signs of stress, disease or insect damage as they are already a step behind the rest.

#### ENVIRONMENTAL STRESS

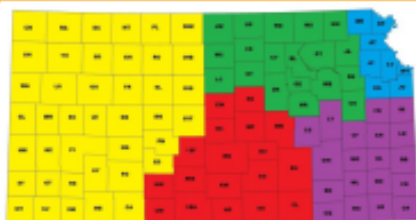
- Environmental stress is probably the most common cause of death.
- Environmental stress is caused by warm, dry winters; hot summers; poorly drained soil; and high soil pH. High humidity in summer also favors disease development. High water pH of irrigation water could also affect tree health even if soil pH is in the preferred slightly acidic range.



Spruce displaying symptoms of environmental stress and/or (unconfirmed) disease

- Environmental stress can be partially alleviated by amending the soil prior to planting. Use organic matter to improve drainage, or plant in a berm. Test soil pH and use the recommended amount of sulfur to lower the pH (increase acidity) or lime to increase pH (increase alkalinity) to the preferred range. In addition to summer irrigation, be sure to water over extended dry periods in the winter when temperatures are above freezing. Monitor regularly for pests and treat accordingly if they are found.

#### AREA FIELD STAFF



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## TRAPPING AND SURVEY PROGRAMS

### EMERALD ASH BORER

The national trapping survey for emerald ash borer is contracted out by USDA. For information on the emerald ash borer, visit: [www.emeraldashborer.info](http://www.emeraldashborer.info)

On September 19, 2016, one adult beetle was found in a trap in Atchison County near Cummings. On October 14, 2016, several larva were removed while peeling a tree that was girdled and checked over the summer in the City of Atchison. Confirmation of the presence of emerald ash borer (EAB) was made on September 23 by USDA-APHIS-PPQ.

Fourteen girdled trap trees were set in seven counties: one in Atchison, two in Cherokee, one in Doniphan, one in Franklin, three in Labette, two in Miami and four in Shawnee county. The trees were girdled in April and then removed and peeled in October.



EAB Quarantine counties

### Kansas Department of Agriculture

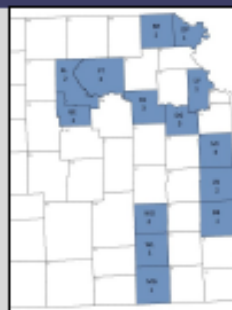
Plant Protection and Weed Control  
6531 SE Forbes Ave., Suite B  
Topeka, KS 66619-0282

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### EXOTIC WOOD BORERS / BARK BEETLE SURVEY

The survey took place from May to July looking for exotic wood borers and bark beetles. *Cerceris* wasp colonies (native biocontrol wasp) were visually surveyed at 21 sites. No colonies were found.

Traps were set for Japanese pine sawyer, oak ambrosia beetle and black spruce beetle. The traps were placed in 25 sites from May to July. None of these insects were found.



Counties surveyed

### PATHWAY SURVEY

This was the second year for the pathway survey which occurred at 35 sites during April to October 2016 at high-risk container yards looking for new exotic plant pest species that are potentially harmful to agriculture/horticulture. The survey occurred in Douglas, Franklin, Johnson, Shawnee and Wyandotte Counties. No target pests were found.

### THANK YOU

We always appreciate the live plant dealers and land owners who let us put traps and surveys on their property. This type of work is of great importance in protecting Kansas. Early detection will improve the odds of eradication and containment success if the pests are found.